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IBM CORPORATION
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EXAMINER

KIM, JUNG W

ART UNIT PAPER NUMBER

2132

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/899,444

Applicant(s)

HERREWEGHEN, ELSIE VAN

Examiner

Jung W. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 and 30-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 and 30-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-28 and 30-35 have been examined.
2. Applicant in the amendment filed on June 22, 2005 amended claims 1, 6, 13, 15, 16, 21, 22, 24, 25 and 26.
3. Claim 29 is canceled.
4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

5. The 101 rejection and objection to claim 29 are withdrawn as claim has been canceled.
6. The 112, 2nd paragraph to claims 15, 16, 21 and 22 are withdrawn as the amendment overcomes the rejections.

Response to Arguments

7. The following is a response to applicant's arguments on pgs. 12-17 in the amendment filed on June 22, 2005 ("Remarks").
8. Applicant's arguments, see pg. 13, paragraphs 2 and 3, with respect to the 112, first paragraph rejections to claims 1, 6, 13 and 24-26 have been fully considered and

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are persuasive. The 112, first paragraph rejections of claims 1, 6, 13 and 24-26 have been withdrawn.

9. In reply to applicant's arguments that neither secondary prior art Muftic nor Brands discloses issuing a receipt while maintaining owner anonymity, the rejection is proper because Lewis in view of Brands and/or Muftic suggest the aforementioned limitation: one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In particular, Brand discloses a well known means of transferring credentials while maintaining owner anonymity using pseudonyms: a user is supplied different pseudonyms at different organizations and a digital signature on one of the user's pseudonyms is transformed into a digital signature on another pseudonym so that certified information can be shared between different organizations without linking the different pseudonyms. Brands, col. 2:15-34. This teaching as it applies to signing receipts as taught by Lewis and Muftic renders the limitation of anonymous ownership of a receipt obvious.

Claim Rejections - 35 USC § 103

10. Claims 6-11, 13, 17, 19-22, 25-28, 31, 32, 34 and 35 are rejected under 35 U.S.C. 102(e) as being unpatentable over Lewis et al. U.S. Patent No. 6,233,565 (hereinafter Lewis) in view of Brands U.S. Patent No. 5,604,805 (hereinafter Brands).

11. As per claim 6, Lewis discloses a receipt generation method, comprising generating an electronic receipt in a communication system providing a public key encryption system, including the steps of:

- a. receiving a message from a sender, the message is electronically signed by the sender using a private signature key owned by the sender, whereby the message includes a transaction request and a reference to a designated owner of a receipt to be generated (Lewis, col. 4:20-27);
- b. authenticating the message using a public signature verification key associated to the private signature key held by the sender of the message (Lewis, 4:24-27; cols. 7 and 8: TABLE 1 under "Transaction Type": "authentication client 2n to server", under "Transaction Server 190" and "Master Server 300");
- c. issuing a receipt including the reference to the designated owner of the receipt and details for what the receipt has been given (Lewis, 4:32-38); and
- d. electronically signing the receipt with a public signature key assigned to an issuer issuing the receipt (Lewis, 4:41-44).

12. Lewis does not teach providing the designated owner with the receipt while maintaining the owner anonymous or pseudonymous. Brands discloses using pseudonyms to withhold the identity of a user in transactions requiring certifying signatures, wherein the signature remains anonymous; the pseudonyms are attained using a blind signature protocol. Certified information under one pseudonym assigned

to an organization is shown to other organization of which the user has a pseudonym without revealing the user identity. Brands, col. 2:15-34. It would be obvious to one of ordinary skill in the art at the time the invention was made to maintain the anonymity of the owner of the receipt, since it is desirous to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. The aforementioned cover the limitations of claim 6.

13. As per claim 7, the rejection of claim 6 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the method further includes the steps of performing the requested transaction, and returning the receipt to the sender. Lewis, col. 4:32-33.

14. As per claims 8-10, the rejection of claim 6 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, Brands discloses using a pseudonym for communicating and using a pseudonym as a reference to a designated owner. Brands, col. 2:15-34. It would be obvious to one of ordinary skill in the art at the time the invention was made to use a pseudonym for communication and designating the owner with a pseudonym to be used as a reference to the owner since it is desirous to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. Further, an anonymous communication connection is necessarily required in a pseudonym protocol. The aforementioned cover the limitations of claims 8-10.

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15. As per claim 11, the rejection of claim 6 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the designated owner of the receipt is the sender. Lewis, col. 4:32-35.

16. As per claim 13, the rejections of claims 7 and 11 under 35 U.S.C. 103(a) are incorporated herein. In addition, the method disclosed by Lewis, is also a method of proving ownership of a receipt (holder of the digital receipt signed by both the owner and the issuer proves ownership of the receipt) including the steps of:

- e. creating a first message including a transaction request and a reference to a designated owner of a receipt to be generated in response to receiving the message (Lewis, col. 4:20-27; the sender of the transaction request is the designated owner of the receipt);
- f. electronically signing the message using a first private signature key (Lewis, 4:24-25; cols. 7 and 8: TABLE 1 under "Transaction Type": "authentication client 2n to server");
- g. sending the first message to a first addressee (Lewis, 4:20-27; first addressee is the transaction server; and
- h. receiving the receipt from the first addressee, the receipt being electronically signed by the first addressee having given the receipt using a private signature key assigned to the first addressee, wherein the receipt includes information as for what the receipt has been issued and the reference to

the designated owner of the receipt while maintaining the owner anonymous or pseudonymous (Lewis, 4:32-43; Brands, col. 2:15-34).

17. It would be obvious to one of ordinary skill in the art at the time the invention was made to maintain the anonymity of the owner, since it is desirable to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. The aforementioned cover the limitations of claim 13.

18. As per claim 17, the rejection of claim 13 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the reference to the designated owner of the receipt is a pseudonym used by the owner of the receipt. Brands, col. 2:15-34. It would be obvious to one of ordinary skill in the art at the time the invention was made for the reference to the designated owner of the receipt to be a pseudonym used by the owner of the receipt, since it is desirable to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. The aforementioned cover the limitation of claim 17.

19. As per claim 19, the rejection of claim 13 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the designated owner of the receipt is identical to a sender sending the first message to the first addressee. Lewis, col. 4, 20-27; the sender of the transaction request is the designated owner of the receipt.

20. As per claim 20, the rejections of claims 13 and 19 under 35 U.S.C. 103(a) are incorporated herein. In addition, the method further comprises creating a second

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message including the receipt; electronically signing the second message using a second private signature key; and sending the second message to the designated owner of the receipt. Lewis, col. 4:32-43.

21. As per claims 21 and 22, the rejection of claim 20 under 35 U.S.C. 103(a) is incorporated herein. Further, Lewis discloses using pseudonyms to withhold the identity of a user in transactions requiring the use of certifying a signature, wherein the signature remains anonymous. Brands, col. 2:15-34. It would be obvious to one of ordinary skill in the art at the time the invention was made wherein the sending and receiving of the first and second messages are performed by using a pseudonym, since it is desirous to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. Finally, an anonymous communication connection is necessarily required in a pseudonym protocol. The aforementioned cover the limitations of claims 21 and 22.

22. As per claims 25 and 26, they are apparatus claims corresponding to claims 6 and 13, and they do not teach or define above the information claimed in claims 6 and 13. Therefore, claims 25 and 26 are rejected as being unpatentable over Lewis and Brands for the same reasons set forth in the rejections of claims 6 and 13.

23. As per claims 27, 28, 31 and 32, the rejections of claims 6 and 13 under 35 U.S.C. 103(a) are incorporated herein. (supra) In addition, means to perform the

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methods of claims 6 and 13 are embodied in a program of instructions executable by a machine. Lewis, Figure 2.

24. As per claims 34 and 35, the rejections of claims 6, 13, 25, 26, 27, 28, 31 and 32 under 35 U.S.C. 103(a) are incorporated herein. (supra) In addition, means to effect the functions of the devices of claims 25 and 26 comprise computer readable program.

Lewis, col. 2:10-14.

25. Claims 1-5, 12, 14-16, 18, 23, 24, 30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis in view of Muftic U.S. Patent No. 5,850,442 (hereinafter Muftic) and Brands.

26. As per claim 1, Lewis discloses a method comprising generating an electronic receipt in a communication system providing a public key encryption infrastructure, wherein a server generation module in response to an electronic payment transaction, generates a receipt and transmits the receipt, wherein the receipt comprises a client digital signature and a the server digital signature, and a data set uniquely identifying the executed transaction, and further wherein the receipt authenticates the electronic transaction. Lewis, col. 4:24-44.

27. Lewis does not expressly teach how the electronic receipt is authenticated. Muftic teaches an ordinary means of authenticating a signed message by a sender of the message using a public key encryption infrastructure including the following steps:

- i. receiving a message from a sender, the message being electronically signed by the sender using a private signature key owned by the sender; the corresponding public key of the sender is provided within a digital certificate by a trusted issuer and signed by the issuer having given the certificate, wherein the certificate includes details for the context of the certificate and a reference to the owner of the certificate (Muftic, col. 2:42-51; 3:35-52; 4:27-32; digital certificates in the standard X.509 define attributes including certificate context and key subscriber identity values);
- j. obtaining a public signature verification key on the basis of the reference to the owner of the certificate (digital certificates enables trusted retrieval of the public signature verification key); and
- k. examining whether or not the private signature key used for electronically signing the message is associated to the public signature verification key obtained on the basis of the reference to the owner of the certificate (Muftic, 2:44-51).

28. Although Muftic does not expressly teach submitting the certificate holding the public signature verification key and signed by the issuer with the original signed message; including the certificate with the signed message is a trivial combination since adequate verification of the signed message requires the signed certificate (see Muftic, 3:30-33); moreover, the combination of disparate parts has been found to be an obvious feature. See *In re Larson* 144 USPQ 347 (CCPA 1965). Further, the digital certificate taught by Muftic is operatively equivalent to the electronic receipt: both maintain a

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record of an agreement/transaction between the owner and the issuer. Hence, it would be obvious to one of ordinary skill in the art at the time the invention was made given the invention of Lewis wherein the receipt is signed by both the owner of the receipt and the issuer of the receipt, and the verification steps taught by Muftic, to verify the receipt according to the recited steps of applicant's claim 1, since it is desirable to cryptographically verify the receipt as being owned by the sender and issued by the issuer. Lewis, 4:36-38; Muftic, 2:10-14 and 3:47-49.

29. Finally, Lewis does not teach maintaining the owner anonymous or pseudonymous. Brands discloses using pseudonyms to withhold the identity of a user in transactions requiring certifying signatures, wherein the signature remains anonymous; the pseudonyms are attained using a blind signature protocol. Certified information under one pseudonym assigned to an organization is shown to other organization of which the user has a pseudonym without revealing the user identity. Brands, col. 2:15-34. It would be obvious to one of ordinary skill in the art at the time the invention was made to maintain the anonymity of the owner, since it is desirable to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. The aforementioned cover the limitations of claim 1.

30. As per claim 2, the rejection of claim 1 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the reference to the owner of the receipt is a public signature verification key associated to a private signature key held by the owner of the receipt. Muftic, col. 2:15-25.

31. As per claims 3 and 4, the rejection of claim 2 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the reference to the owner of the receipt is a pseudonym used by the owner of the receipt and a certificate securely links the pseudonym to the public signature verification key. Brands, col. 2:15-34 (blind signature protocol links the pseudonym with the user); Muftic, col. 2:15-25. It would be obvious to one of ordinary skill in the art at the time the invention was made for the reference to the owner of the receipt to be a pseudonym used by the owner of the receipt and for a certificate to securely link the pseudonym to the public signature verification key, since it is desirable to maintain the privacy of a user transferring certified information. Brands, col. 2:15-16. The aforementioned cover the limitations of claims 3 and 4.

32. As per claim 5, the rejection of claim 1 under 35 U.S.C. 103(a) is incorporated herein. (supra) In addition, the method further comprises the step of authenticating the receipt using a public signature verification key assigned to the issuer of the receipt. Muftic, col. 3:51-52.

33. As per claim 12, the rejections of claims 1 and 6 under 35 U.S.C. 103(a) are incorporated herein. (supra) In addition, the reference to a designated owner is a public signature key associated to a private signature verification key held by the designated owner of the receipt. Muftic, col. 3:35-41. It would be obvious to one of ordinary skill in

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the art at the time the invention was made for the reference to a designated owner to be a public signature key associated to a private signature verification key held by the designated owner of the receipt, since it is desirous to identify and verify a cryptographic signature signed with the owner's private key.. Muftic, 2:6-14 and 3:35-52. The aforementioned cover the limitations of claim 12.

34. Regarding claims 14 and 16, the rejections of claims 1 and 13 under 35 U.S.C. 103(a) are incorporated herein. (supra) In addition, as argued in the rejection of claim 1, verification of the receipt signed by both the sender and the issuer is an obvious step. Further, a mediating service distinct from the owner of the receipt necessarily verifies the ownership of a receipt. Finally, Muftic teaches verifying a signed message by decrypting the signed message and comparing the decrypted message with an original message for equality (Muftic, col. 2:41-51), which is functionally obvious over the step of comparing two electronic signatures for equality as recited in claim 16.

35. As per claim 15, the rejection of claim 14 under 35 U.S.C. 103(a) is incorporated herein. (supra) Lewis does not expressly teach the first addressee is identical to the second addressee. Brands suggests it is well known for participants involved in secure electronic protocols comprising a plurality of roles, including users, certifying parties and transaction parties, to perform more than one of these roles. Brands, col. 1:17-25. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made for the first addressee to be identical to the second addressee since

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consolidation of roles enables participants to be more flexible in the roles they perform as taught by Brands, *ibid*. Furthermore, it is desirable for a server issuing a receipt to be able to validate the receipt, since a receipt acts as a record of services requested and paid for by the user. The aforementioned cover the limitations of claim 15.

36. Regarding claim 18, the rejections of claims 12 and 13 under 35 U.S.C. 103(a) are incorporated herein. (*supra*) In addition, the reference to a designated owner is a public signature key associated to a private signature verification key held by the designated owner of the receipt. Muftic, col. 3:35-41. It would be obvious to one of ordinary skill in the art at the time the invention was made for the reference to a designated owner to be a public signature key associated to a private signature verification key held by the designated owner of the receipt, since it is desirous to identify and verify a cryptographic signature signed with the owner's private key. Muftic, 2:6-14 and 3:35-52. The aforementioned cover the limitations of claim 18.

37. As per claim 24, it is an apparatus claims corresponding to claim 1, and it does not teach or define above the information claimed in claim 1. Therefore, claim 24 is rejected as being unpatentable over Lewis in view of Muftic and Brands for the same reasons set forth in the rejection of claim 1.

38. As per claims 23 and 30, the rejections of claims 1 and 24 under 35 U.S.C. 103(a) are incorporated herein. (*supra*) In addition, means to perform the method of

claim 1 is embodied in a program of instructions executable by a machine. Lewis,
Figure 2.

39. As per claim 33, the rejections of claims 1, 23, 24 and 30 under 35 U.S.C. 103(a) are incorporated herein. (supra) In addition, means to effect the functions of the device of claim 24 comprise a computer readable program. Lewis, col. 2:10-14.

Conclusion

40. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Communications Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W. Kim whose telephone number is 571-272-3804. The examiner can normally be reached on M-F 9:00-5:00.

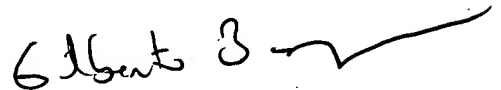
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



July 26, 2005

Jung W Kim
Examiner
Art Unit 2132



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